

GLAZING OPTIONS

Choosing the Correct Glazing System

Today's architecture features ever increasing expanses of glass to capture views and allow natural light to illuminate interiors. Choosing the correct glazing system (the glass and the spacer between the panes of glass) for your climate, exposure and architectural design is one of the most important decisions you will make during the construction process.

Sierra Pacific's advanced glazing system features Super Spacer® by EdgeTech, the world's only NO-Metal TrueWARM® Edge insulating glass spacer paired with high-performance, spectrally-selective LoE glass from Cardinal



Warm Edge

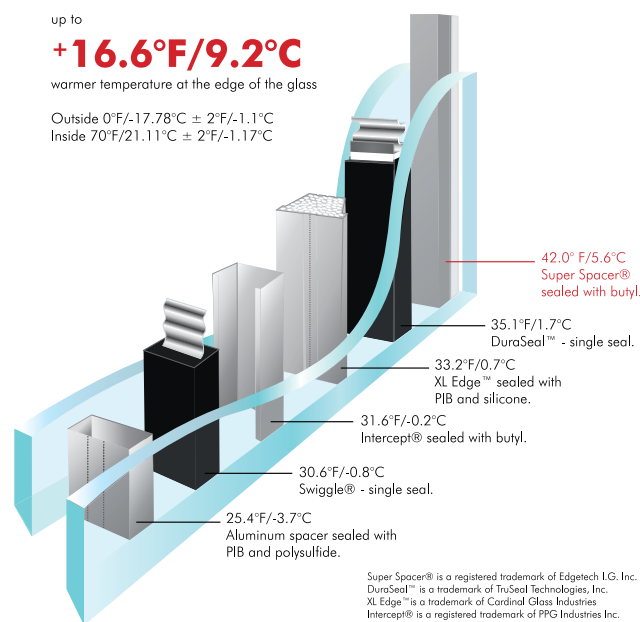
In order to overcome the thermal inefficiency of conventional aluminum window spacers, a new type of spacer product called warm edge technology has evolved in the window industry. Warm Edge refers to the type of spacer material used to separate the panes of glass in an insulated window unit.

If the material conducts less heat or cold at the edge of the glass than a conventional aluminum spacer, it is said to be 'warm-edge.' Most of these newer window spacers are less conductive and outperform pure aluminum. But there's still one small problem -- they all contain some kind of metal. And metal is highly conductive.

Unlike other so-called "warm" edge spacers that contain steel or aluminum wrapped in butyl rubber, Super Spacer® is made of 100% polymer structural foam. The NO-Metal formula conducts less heat and cold than conventional metal spacers and provides the warmest possible edge.

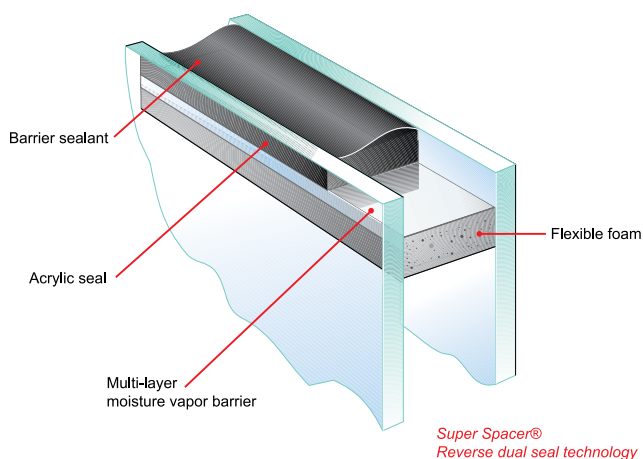
The NO-Metal TrueWARM® Edge:

- Assures comfortable humidity levels and reduces worries about condensation and mold
- Resists window condensation
- Reduces energy costs
- Provides long-life durability
- Reduces outside noise transmittance



Super Spacer® is a registered trademark of Edgetech I.G. Inc. DuraSeal™ is a trademark of TruSeal Technologies, Inc. XL Edge™ is a trademark of Cardinal Glass Industries Intercept® is a registered trademark of PPG Industries Inc. Swiggle® is a trademark of TruSeal Technologies, Inc.

Simulations performed by Enermodal Engineering Ltd. using Window 5.2 and Therm 5.2 as per NFRC100-2001. All air spaces are .500" wide, IGUs are 24" x 48", Low-E glass is Cardinal Low-E2 172.

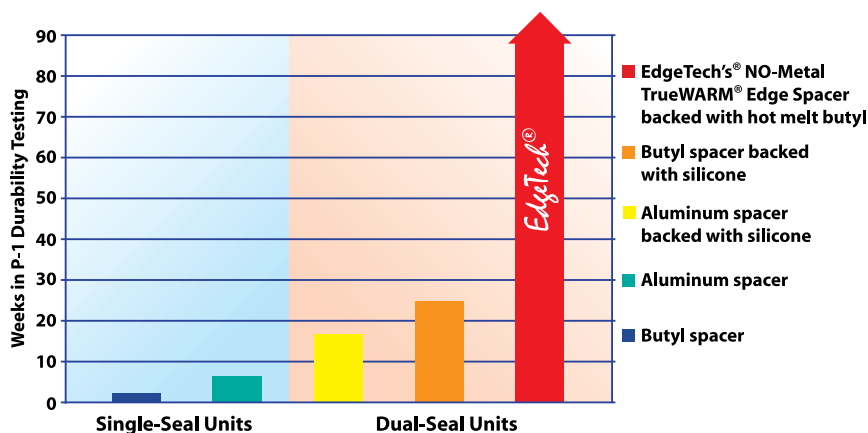


Dual-Seal System

EdgeTech's NO-Metal TrueWARM® Edge spacer is a dual-seal system that uses a high-performance acrylic adhesive for its structural seal. Backed with a moisture vapor seal, insulating glass units made with this spacer last five times longer than single seal units in durability tests. The results are obvious. Super Spacer's® structural foam combines with the strength of the acrylic adhesive to form an extremely reliable primary seal for Sierra Pacific insulating glass units. We use this aesthetically-pleasing, non-reflective spacer in every product we manufacture.

P-1 Durability Test

All Super Spacer® products meet the challenge of the P-1 chamber, the test many engineers consider the world's toughest. One week spent in a P-1 chamber is equivalent to approximately one year in the field. Super Spacer® survived 100 weeks in the P-1 Chamber!



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Ideal Glass Performance

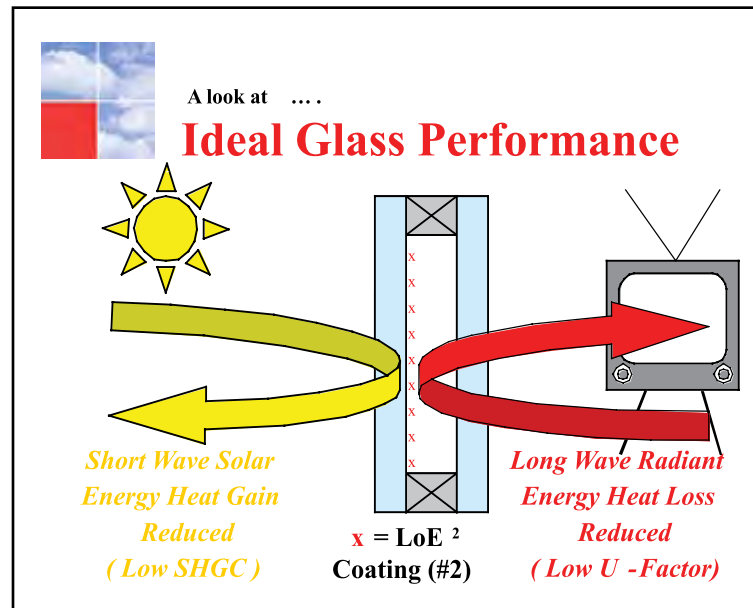
The insulating effect of your windows has a direct impact on the comfort factor inside your home or commercial building. Typically 75% of the exposed surface of a window is glass, and the temperature of the interior surface of the glass directly affects the air temperature in the room. The better insulated the glass, the more comfortable the room.

According to the Consumer Federation of America, the average American household spends \$1,500 per year on energy costs. Energy-efficient windows can help cut these costs. In fact, you can reduce your energy bills by up to one-third by simply using low-emissivity (LoE) glass.

Sierra Pacific offers many glass options, including energy-efficient, spectrally-selective Cardinal LoE glass, tinted, obscure and specialty glazings.

Spectrally-selective LoE coatings have the ability to handle each portion of the solar spectrum (visible light, ultra violet and near infrared) differently. These coatings act as invisible insulation on your glass. They allow daylight to pass through the glass as they filter out solar heat for energy-savings during the air-conditioning season.

Conversely, spectrally-selective LoE coatings significantly improve winter nighttime insulation, keeping the interior of your building warmer during the heating-controlled months of the year.



Cardinal LoE²-272 Glass

The Clearest Choice for Total Comfort

LoE²-272 blocks enough solar heat that cooling loads can be cut by 25% or more compared to ordinary low-E and clear glass. The oppressive heat of the sun is composed of visible light and invisible infrared energy. LoE²-272 is produced with a patented coating technology that allows the daylight to pass through the glass and filters out solar heat. In fact, it blocks 84% of the sun's harmful ultraviolet rays and delivers a remarkable 96% performance improvement in winter nighttime insulation (R-value) compared to non-coated air-filled insulating glass.

Cardinal LoE²-240 Glass

Reduce the Glare with Aesthetically-Consistent Color

LoE²-240, Cardinal's solution to solar glare and thermal discomfort, provides a great combination of aesthetic appeal with energy savings and indoor comfort. The glare-reducing tint in LoE²-240 is part of the spectrally-selective coating. Therefore, unlike regular gray

and bronze tinted glass, the aesthetically-consistent, bluish-grey color and performance of LoE³-240 are the same regardless of changes in glass thickness from smaller to larger windows.

Cardinal LoE³-366 Glass

A New Standard

Cardinal's LoE³-366 is the ultimate performance glass. LoE³-366 delivers the ideal balance of solar control and high visibility. This glass provides the highest levels of year-round comfort and energy savings, making it the perfect glass no matter where you live. The secret is an unprecedented triple layer of silver in the coating stack. LoE³-366 is formulated to reject solar heat while maintaining attractive visibility. So it keeps the heat out while letting light in. As a matter of fact, LoE³-366 glass is the ultimate in performance and clarity among all of Cardinal's clear coated products.

Obscure, Tinted and Specialty Glazing

Sierra Pacific also offers a wide variety of glazing options to meet your requirements including:

- **Obscure Glass**

We offer many obscure patterned glass types including Rain, Narrow Reed, Glue Chip, Satin Etch and others by request.

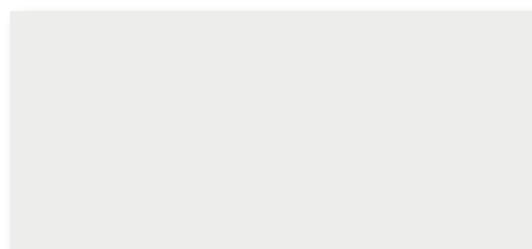
- **Tinted Glass**

For projects with special aesthetic requirements, we offer tinted glass in gray or bronze and other tints by request.

- **Specialty Glazing**

We offer many specialty glazing products including laminated glass for increased security and sound deadening capability and spandrel panels for commercial projects.

See the Technical Section for NFRC Thermal Performance Data



Clear



Delta Frost



Glue Chip



Obscure



Narrow Reed



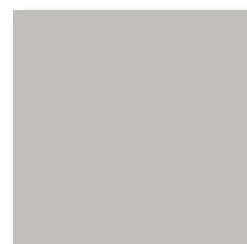
Rain Glass



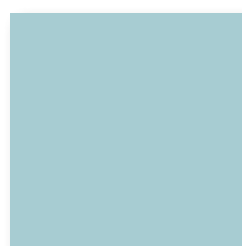
Satin Etch



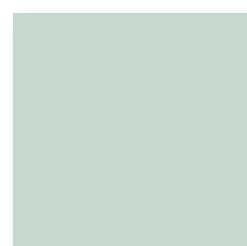
Bronze Tint



Gray Tint



Blue Tint



Green Tint